



112911\_161.ST25.txt  
SEQUENCE LISTING

<110> McLendon George L.  
<120> IAP-BINDING CARGO MOLECULES AND PEPTIDOMIMETICS FOR USE IN  
DIAGNOSTIC AND THERAPEUTIC METHODS  
<130> 112911.01601  
<140> 10/777,946  
<141> 2004-12-12  
<150> 60/446,903  
<151> 2004-12-12  
<160> 87  
<170> PatentIn version 3.2  
<210> 1  
<211> 497  
<212> PRT  
<213> Homo sapiens  
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Ile Asn Lys Glu Glu Glu Phe Val Glu Glu Phe Asn Arg Leu Lys Thr  
20 25 30

Phe Ala Asn Phe Pro Ser Gly Ser Pro Val Ser Ala Ser Thr Leu Ala  
35 40 45

Arg Ala Gly Phe Leu Tyr Thr Gly Glu Gly Asp Thr Val Arg Cys Phe  
50 55 60

Ser Cys His Ala Ala Val Asp Arg Trp Gln Tyr Gly Asp Ser Ala Val  
65 70 75 80

Gly Arg His Arg Lys Val Ser Pro Asn Cys Arg Phe Ile Asn Gly Phe  
85 90 95

Tyr Leu Glu Asn Ser Ala Thr Gln Ser Thr Asn Ser Gly Ile Gln Asn  
100 105 110

Gly Gln Tyr Lys Val Glu Asn Tyr Leu Gly Ser Arg Asp His Phe Ala  
115 120 125

Leu Asp Arg Pro Ser Glu Thr His Ala Asp Tyr Leu Leu Arg Thr Gly  
130 135 140

Gln Val Val Asp Ile Ser Asp Thr Ile Tyr Pro Arg Asn Pro Ala Met  
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145	150							155							160
Tyr	Ser	Glu	Glu	Ala 165	Arg	Leu	Lys	Ser	Phe 170	Gln	Asn	Trp	Pro	Asp 175	Tyr
Ala	His	Leu	Thr 180	Pro	Arg	Glu	Leu	Ala 185	Ser	Ala	Gly	Leu	Tyr 190	Tyr	Thr
Gly	Ile	Gly 195	Asp	Gln	Val	Gln	Cys 200	Phe	Cys	Cys	Gly	Gly 205	Lys	Leu	Lys
Asn	Trp 210	Glu	Pro	Cys	Asp	Arg 215	Ala	Trp	Ser	Glu	His 220	Arg	Arg	His	Phe
Pro 225	Asn	Cys	Phe	Phe	Val 230	Leu	Gly	Arg	Asn	Leu 235	Asn	Ile	Arg	Ser	Glu 240
Ser	Asp	Ala	Val	Ser 245	Ser	Asp	Arg	Asn	Phe 250	Pro	Asn	Ser	Thr	Asn 255	Leu
Pro	Arg	Asn	Pro 260	Ser	Met	Ala	Asp	Tyr 265	Glu	Ala	Arg	Ile	Phe 270	Thr	Phe
Gly	Thr	Trp 275	Ile	Tyr	Ser	Val	Asn 280	Lys	Glu	Gln	Leu	Ala 285	Arg	Ala	Gly
Phe	Tyr 290	Ala	Leu	Gly	Glu	Gly 295	Asp	Lys	Val	Lys	Cys 300	Phe	His	Cys	Gly
Gly 305	Gly	Leu	Thr	Asp	Trp 310	Lys	Pro	Ser	Glu	Asp 315	Pro	Trp	Glu	Gln	His 320
Ala	Lys	Trp	Tyr	Pro 325	Gly	Cys	Lys	Tyr	Leu 330	Leu	Glu	Gln	Lys	Gly 335	Gln
Glu	Tyr	Ile	Asn 340	Asn	Ile	His	Leu	Thr 345	His	Ser	Leu	Glu	Glu 350	Cys	Leu
Val	Arg	Thr 355	Thr	Glu	Lys	Thr	Pro 360	Ser	Leu	Thr	Arg	Arg 365	Ile	Asp	Asp
Thr	Ile 370	Phe	Gln	Asn	Pro	Met 375	Val	Gln	Glu	Ala	Ile 380	Arg	Met	Gly	Phe
Ser 385	Phe	Lys	Asp	Ile	Lys 390	Lys	Ile	Met	Glu	Glu 395	Lys	Ile	Gln	Ile	Ser 400

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Gly Ser Asn Tyr Lys Ser Leu Glu Val Leu Val Ala Asp Leu Val Asn  
405 410 415

Ala Gln Lys Asp Ser Met Gln Asp Glu Ser Ser Gln Thr Ser Leu Gln  
420 425 430

Lys Glu Ile Ser Thr Glu Glu Gln Leu Arg Arg Leu Gln Glu Glu Lys  
435 440 445

Leu Cys Lys Ile Cys Met Asp Arg Asn Ile Ala Ile Val Phe Val Pro  
450 455 460

Cys Gly His Leu Val Thr Cys Lys Gln Cys Ala Glu Ala Val Asp Lys  
465 470 475 480

Cys Pro Met Cys Tyr Thr Val Ile Thr Phe Lys Gln Lys Ile Phe Met  
485 490 495

Ser

<210> 2  
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1 5 10 15

His Arg Ile Ser Thr Phe Lys Asn Trp Pro Phe Leu Glu Gly Cys Ala  
20 25 30

Cys Thr Pro Glu Arg Met Ala Glu Ala Gly Phe Ile His Cys Pro Thr  
35 40 45

Glu Asn Glu Pro Asp Leu Ala Gln Cys Phe Phe Cys Phe Lys Glu Leu  
50 55 60

Glu Gly Trp Glu Pro Asp Asp Asp Pro Ile Glu Glu His Lys Lys His  
65 70 75 80

Ser Ser Gly Cys Ala Phe Leu Ser Val Lys Lys Gln Phe Glu Glu Leu  
85 90 95

Thr Leu Gly Glu Phe Leu Lys Leu Asp Arg Glu Arg Ala Lys Asn Lys  
100 105 110

Ile Ala Lys Glu Thr Asn Asn Lys Lys Lys Glu Phe Glu Glu Thr Ala  
 115 120 125

Lys Lys Val Arg Arg Ala Ile Glu Gln Leu Ala Ala Met Asp  
 130 135 140

<210> 3  
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<400> 3

Met Gly Pro Lys Asp Ser Ala Lys Cys Leu His Arg Gly Pro Gln Pro  
 1 5 10 15

Ser His Trp Ala Ala Gly Asp Gly Pro Thr Gln Glu Arg Cys Gly Pro  
 20 25 30

Arg Ser Leu Gly Ser Pro Val Leu Gly Leu Asp Thr Cys Arg Ala Trp  
 35 40 45

Asp His Val Asp Gly Gln Ile Leu Gly Gln Leu Arg Pro Leu Thr Glu  
 50 55 60

Glu Glu Glu Glu Glu Gly Ala Gly Ala Thr Leu Ser Arg Gly Pro Ala  
 65 70 75 80

Phe Pro Gly Met Gly Ser Glu Glu Leu Arg Leu Ala Ser Phe Tyr Asp  
 85 90 95

Trp Pro Leu Thr Ala Glu Val Pro Pro Glu Leu Leu Ala Ala Ala Gly  
 100 105 110

Phe Phe His Thr Gly His Gln Asp Lys Val Arg Cys Phe Phe Cys Tyr  
 115 120 125

Gly Gly Leu Gln Ser Trp Lys Arg Gly Asp Asp Pro Trp Thr Glu His  
 130 135 140

Ala Lys Trp Phe Pro Ser Cys Gln Phe Leu Leu Arg Ser Lys Gly Arg  
 145 150 155 160

Asp Phe Val His Ser Val Gln Glu Thr His Ser Gln Leu Leu Gly Ser  
 165 170 175

Trp Asp Pro Trp Glu Glu Pro Glu Asp Ala Ala Pro Val Ala Pro Ser  
 180 185 190

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Val Pro Ala Ser Gly Tyr Pro Glu Leu Pro Thr Pro Arg Arg Glu Val  
195 200 205

Gln Ser Glu Ser Ala Gln Glu Pro Gly Gly Val Ser Pro Ala Glu Ala  
210 215 220

Gln Arg Ala Trp Trp Val Leu Glu Pro Pro Gly Ala Arg Asp Val Glu  
225 230 235 240

Ala Gln Leu Arg Arg Leu Gln Glu Glu Arg Thr Cys Lys Val Cys Leu  
245 250 255

Asp Arg Ala Val Ser Ile Val Phe Val Pro Cys Gly His Leu Val Cys  
260 265 270

Ala Glu Cys Ala Pro Gly Leu Gln Leu Cys Pro Ile Cys Arg Ala Pro  
275 280 285

Val Arg Ser Arg Val Arg Thr Phe Leu Ser  
290 295

<210> 4  
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<212> PRT  
<213> Homo sapiens

<400> 4

Met His Lys Thr Ala Ser Gln Arg Leu Phe Pro Gly Pro Ser Tyr Gln  
1 5 10 15

Asn Ile Lys Ser Ile Met Glu Asp Ser Thr Ile Leu Ser Asp Trp Thr  
20 25 30

Asn Ser Asn Lys Gln Lys Met Lys Tyr Asp Phe Ser Cys Glu Leu Tyr  
35 40 45

Arg Met Ser Thr Tyr Ser Thr Phe Pro Ala Gly Val Pro Val Ser Glu  
50 55 60

Arg Ser Leu Ala Arg Ala Gly Phe Tyr Tyr Thr Gly Val Asn Asp Lys  
65 70 75 80

Val Lys Cys Phe Cys Cys Gly Leu Met Leu Asp Asn Trp Lys Leu Gly  
85 90 95

Asp Ser Pro Ile Gln Lys His Lys Gln Leu Tyr Pro Ser Cys Ser Phe  
100 105 110

Ile Gln Asn Leu Val Ser Ala Ser Leu Gly Ser Thr Ser Lys Asn Thr  
 115 120 125  
 Ser Pro Met Arg Asn Ser Phe Ala His Ser Leu Ser Pro Thr Leu Glu  
 130 135 140  
 His Ser Ser Leu Phe Ser Gly Ser Tyr Ser Ser Leu Ser Pro Asn Pro  
 145 150 155 160  
 Leu Asn Ser Arg Ala Val Glu Asp Ile Ser Ser Ser Arg Thr Asn Pro  
 165 170 175  
 Tyr Ser Tyr Ala Met Ser Thr Glu Glu Ala Arg Phe Leu Thr Tyr His  
 180 185 190  
 Met Trp Pro Leu Thr Phe Leu Ser Pro Ser Glu Leu Ala Arg Ala Gly  
 195 200 205  
 Phe Tyr Tyr Ile Gly Pro Gly Asp Arg Val Ala Cys Phe Ala Cys Gly  
 210 215 220  
 Gly Lys Leu Ser Asn Trp Glu Pro Lys Asp Asp Ala Met Ser Glu His  
 225 230 235 240  
 Arg Arg His Phe Pro Asn Cys Pro Phe Leu Glu Asn Ser Leu Glu Thr  
 245 250 255  
 Leu Arg Phe Ser Ile Ser Asn Leu Ser Met Gln Thr His Ala Ala Arg  
 260 265 270  
 Met Arg Thr Phe Met Tyr Trp Pro Ser Ser Val Pro Val Gln Pro Glu  
 275 280 285  
 Gln Leu Ala Ser Ala Gly Phe Tyr Tyr Val Gly Arg Asn Asp Asp Val  
 290 295 300  
 Lys Cys Phe Cys Cys Asp Gly Gly Leu Arg Cys Trp Glu Ser Gly Asp  
 305 310 315 320  
 Asp Pro Trp Val Glu His Ala Lys Trp Phe Pro Arg Cys Glu Phe Leu  
 325 330 335  
 Ile Arg Met Lys Gly Gln Glu Phe Val Asp Glu Ile Gln Gly Arg Tyr  
 340 345 350  
 Pro His Leu Leu Glu Gln Leu Leu Ser Thr Ser Asp Thr Thr Gly Glu  
 355 360 365

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Glu Asn Ala Asp Pro Pro Ile Ile His Phe Gly Pro Gly Glu Ser Ser  
 370 375 380  
 Ser Glu Asp Ala Val Met Met Asn Thr Pro Val Val Lys Ser Ala Leu  
 385 390 400  
 Glu Met Gly Phe Asn Arg Asp Leu Val Lys Gln Thr Val Gln Ser Lys  
 405 410 415  
 Ile Leu Thr Thr Gly Glu Asn Tyr Lys Thr Val Asn Asp Ile Val Ser  
 420 425 430  
 Ala Leu Leu Asn Ala Glu Asp Glu Lys Arg Glu Glu Glu Lys Glu Lys  
 435 440 445  
 Gln Ala Glu Glu Met Ala Ser Asp Asp Leu Ser Leu Ile Arg Lys Asn  
 450 455 460  
 Arg Met Ala Leu Phe Gln Gln Leu Thr Cys Val Leu Pro Ile Leu Asp  
 465 470 475 480  
 Asn Leu Leu Lys Ala Asn Val Ile Asn Lys Gln Glu His Asp Ile Ile  
 485 490 495  
 Lys Gln Lys Thr Gln Ile Pro Leu Gln Ala Arg Glu Leu Ile Asp Thr  
 500 505 510  
 Ile Leu Val Lys Gly Asn Ala Ala Ala Asn Ile Phe Lys Asn Cys Leu  
 515 520 525  
 Lys Glu Ile Asp Ser Thr Leu Tyr Lys Asn Leu Phe Val Asp Lys Asn  
 530 535 540  
 Met Lys Tyr Ile Pro Thr Glu Asp Val Ser Gly Leu Ser Leu Glu Glu  
 545 550 555 560  
 Gln Leu Arg Arg Leu Gln Glu Glu Arg Thr Cys Lys Val Cys Met Asp  
 565 570 575  
 Lys Glu Val Ser Val Val Phe Ile Pro Cys Gly His Leu Val Val Cys  
 580 585 590  
 Gln Glu Cys Ala Pro Ser Leu Arg Lys Cys Pro Ile Cys Arg Gly Ile  
 595 600 605  
 Ile Lys Gly Thr Val Arg Thr Phe Leu Ser  
 610 615

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<210> 5  
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 <213> Homo sapiens

<400> 5

Met Asn Ile Val Glu Asn Ser Ile Phe Leu Ser Asn Leu Met Lys Ser  
 1 5 10 15

Ala Asn Thr Phe Glu Leu Lys Tyr Asp Leu Ser Cys Glu Leu Tyr Arg  
 20 25 30

Met Ser Thr Tyr Ser Thr Phe Pro Ala Gly Val Pro Val Ser Glu Arg  
 35 40 45

Ser Leu Ala Arg Ala Gly Phe Tyr Tyr Thr Gly Val Asn Asp Lys Val  
 50 55 60

Lys Cys Phe Cys Cys Gly Leu Met Leu Asp Asn Trp Lys Arg Gly Asp  
 65 70 75 80

Ser Pro Thr Glu Lys His Lys Lys Leu Tyr Pro Ser Cys Arg Phe Val  
 85 90 95

Gln Ser Leu Asn Ser Val Asn Asn Leu Glu Ala Thr Ser Gln Pro Thr  
 100 105 110

Phe Pro Ser Ser Val Thr Asn Ser Thr His Ser Leu Leu Pro Gly Thr  
 115 120 125

Glu Asn Ser Gly Tyr Phe Arg Gly Ser Tyr Ser Asn Ser Pro Ser Asn  
 130 135 140

Pro Val Asn Ser Arg Ala Asn Gln Asp Phe Ser Ala Leu Met Arg Ser  
 145 150 155 160

Ser Tyr His Cys Ala Met Asn Asn Glu Asn Ala Arg Leu Leu Thr Phe  
 165 170 175

Gln Thr Trp Pro Leu Thr Phe Leu Ser Pro Thr Asp Leu Ala Lys Ala  
 180 185 190

Gly Phe Tyr Tyr Ile Gly Pro Gly Asp Arg Val Ala Cys Phe Ala Cys  
 195 200 205

Gly Gly Lys Leu Ser Asn Trp Glu Pro Lys Asp Asn Ala Met Ser Glu  
 210 215 220



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His Leu Arg His Phe Pro Lys Cys Pro Phe Ile Glu Asn Gln Leu Gln  
225 230 235 240

Asp Thr Ser Arg Tyr Thr Val Ser Asn Leu Ser Met Gln Thr His Ala  
245 250 255

Ala Arg Phe Lys Thr Phe Phe Asn Trp Pro Ser Ser Val Leu Val Asn  
260 265 270

Pro Glu Gln Leu Ala Ser Ala Gly Phe Tyr Tyr Val Gly Asn Ser Asp  
275 280 285

Asp Val Lys Cys Phe Cys Cys Asp Gly Gly Leu Arg Cys Trp Glu Ser  
290 295 300

Gly Asp Asp Pro Trp Val Gln His Ala Lys Trp Phe Pro Arg Cys Glu  
305 310 315 320

Tyr Leu Ile Arg Ile Lys Gly Gln Glu Phe Ile Arg Gln Val Gln Ala  
325 330 335

Ser Tyr Pro His Leu Leu Glu Gln Leu Leu Ser Thr Ser Asp Ser Pro  
340 345 350

Gly Asp Glu Asn Ala Glu Ser Ser Ile Ile His Phe Glu Pro Gly Glu  
355 360 365

Asp His Ser Glu Asp Ala Ile Met Met Asn Thr Pro Val Ile Asn Ala  
370 375 380

Ala Val Glu Met Gly Phe Ser Arg Ser Leu Val Lys Gln Thr Val Gln  
385 390 395 400

Arg Lys Ile Leu Ala Thr Gly Glu Asn Tyr Arg Leu Val Asn Asp Leu  
405 410 415

Val Leu Asp Leu Leu Asn Ala Glu Asp Glu Ile Arg Glu Glu Glu Arg  
420 425 430

Glu Arg Ala Thr Glu Glu Lys Glu Ser Asn Asp Leu Leu Leu Ile Arg  
435 440 445

Lys Asn Arg Met Ala Leu Phe Gln His Leu Thr Cys Val Ile Pro Ile  
450 455 460

Leu Asp Ser Leu Leu Thr Ala Gly Ile Ile Asn Glu Gln Glu His Asp  
Page 9

465 470 480

Val Ile Lys Gln Lys Thr Gln Thr Ser Leu Gln Ala Arg Glu Leu Ile  
485 490 495

Asp Thr Ile Leu Val Lys Gly Asn Ile Ala Ala Thr Val Phe Arg Asn  
500 505 510

Ser Leu Gln Glu Ala Glu Ala Val Leu Tyr Glu His Leu Phe Val Gln  
515 520 525

Gln Asp Ile Lys Tyr Ile Pro Thr Glu Asp Val Ser Asp Leu Pro Val  
530 535 540

Glu Glu Gln Leu Arg Arg Leu Gln Glu Glu Arg Thr Cys Lys Val Cys  
545 550 555 560

Met Asp Lys Glu Val Ser Ile Val Phe Ile Pro Cys Gly His Leu Val  
565 570 575

Val Cys Lys Asp Cys Ala Pro Ser Leu Arg Lys Cys Pro Ile Cys Arg  
580 585 590

Ser Thr Ile Lys Gly Thr Val Arg Thr Phe Leu Ser  
595 600

<210> 6  
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<212> PRT  
<213> Homo sapiens

<400> 6

Met Ala Ala Leu Lys Ser Trp Leu Ser Arg Ser Val Thr Ser Phe Phe  
1 5 10 15

Arg Tyr Arg Gln Cys Leu Cys Val Pro Val Val Ala Asn Phe Lys Lys  
20 25 30

Arg Cys Phe Ser Glu Leu Ile Arg Pro Trp His Lys Thr Val Thr Ile  
35 40 45

Gly Phe Gly Val Thr Leu Cys Ala Val Pro Ile Ala Gln Lys Ser Glu  
50 55 60

Pro His Ser Leu Ser Ser Glu Ala Leu Met Arg Arg Ala Val Ser Leu  
65 70 75 80

Val Thr Asp Ser Thr Ser Thr Phe Leu Ser Gln Thr Thr Tyr Ala Leu  
Page 10

Ile Glu Ala Ile Thr Glu Tyr Thr Lys Ala Val Tyr Thr Leu Thr Ser  
100 105 110  
Leu Tyr Arg Gln Tyr Thr Ser Leu Leu Gly Lys Met Asn Ser Glu Glu  
115 120 125  
Glu Asp Glu Val Trp Gln Val Ile Ile Gly Ala Arg Ala Glu Met Thr  
130 135 140  
Ser Lys His Gln Glu Tyr Leu Lys Leu Glu Thr Thr Trp Met Thr Ala  
145 150 155 160  
Val Gly Leu Ser Glu Met Ala Ala Glu Ala Ala Tyr Gln Thr Gly Ala  
165 170 175  
Asp Gln Ala Ser Ile Thr Ala Arg Asn His Ile Gln Leu Val Lys Leu  
180 185 190  
Gln Val Glu Glu Val His Gln Leu Ser Arg Lys Ala Glu Thr Lys Leu  
195 200 205  
Ala Glu Ala Gln Ile Glu Glu Leu Arg Gln Lys Thr Gln Glu Glu Gly  
210 215 220  
Glu Glu Arg Ala Glu Ser Glu Gln Glu Ala Tyr Leu Arg Glu Asp  
225 230 235

<210> 7  
<211> 1248  
<212> PRT  
<213> Homo sapiens

<400> 7

Met Asp Ala Lys Ala Arg Asn Cys Leu Leu Gln His Arg Glu Ala Leu  
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Glu Lys Asp Ile Lys Thr Ser Tyr Ile Met Asp His Met Ile Ser Asp  
20 25 30  
Gly Phe Leu Thr Ile Ser Glu Glu Glu Lys Val Arg Asn Glu Pro Thr  
35 40 45  
Gln Gln Gln Arg Ala Ala Met Leu Ile Lys Met Ile Leu Lys Lys Asp  
50 55 60  
Asn Asp Ser Tyr Val Ser Phe Tyr Asn Ala Leu Leu His Glu Gly Tyr

65

70

80

Lys Asp Leu Ala Ala Leu Leu His Asp Gly Ile Pro Val Val Ser Ser  
85 90 95

Ser Ser Gly Lys Asp Ser Val Ser Gly Ile Thr Ser Tyr Val Arg Thr  
100 105 110

Val Leu Cys Glu Gly Gly Val Pro Gln Arg Pro Val Val Phe Val Thr  
115 120 125

Arg Lys Lys Leu Val Asn Ala Ile Gln Gln Lys Leu Ser Lys Leu Lys  
130 135 140

Gly Glu Pro Gly Trp Val Thr Ile His Gly Met Ala Gly Cys Gly Lys  
145 150 155 160

Ser Val Leu Ala Ala Glu Ala Val Arg Asp His Ser Leu Leu Glu Gly  
165 170 175

Cys Phe Pro Gly Gly Val His Trp Val Ser Val Gly Lys Gln Asp Lys  
180 185 190

Ser Gly Leu Leu Met Lys Leu Gln Asn Leu Cys Thr Arg Leu Asp Gln  
195 200 205

Asp Glu Ser Phe Ser Gln Arg Leu Pro Leu Asn Ile Glu Glu Ala Lys  
210 215 220

Asp Arg Leu Arg Ile Leu Met Leu Arg Lys His Pro Arg Ser Leu Leu  
225 230 235 240

Ile Leu Asp Asp Val Trp Asp Ser Trp Val Leu Lys Ala Phe Asp Ser  
245 250 255

Gln Cys Gln Ile Leu Leu Thr Thr Arg Asp Lys Ser Val Thr Asp Ser  
260 265 270

Val Met Gly Pro Lys Tyr Val Val Pro Val Glu Ser Ser Leu Gly Lys  
275 280 285

Glu Lys Gly Leu Glu Ile Leu Ser Leu Phe Val Asn Met Lys Lys Ala  
290 295 300

Asp Leu Pro Glu Gln Ala His Ser Ile Ile Lys Glu Cys Lys Gly Ser  
305 310 315 320

Pro Leu Val Val Ser Leu Ile Gly Ala Leu Leu Arg Asp Phe Pro Asn  
 325 330 335  
 Arg Trp Glu Tyr Tyr Leu Lys Gln Leu Gln Asn Lys Gln Phe Lys Arg  
 340 345 350  
 Ile Arg Lys Ser Ser Ser Tyr Asp Tyr Glu Ala Leu Asp Glu Ala Met  
 355 360 365  
 Ser Ile Ser Val Glu Met Leu Arg Glu Asp Ile Lys Asp Tyr Tyr Thr  
 370 375 380  
 Asp Leu Ser Ile Leu Gln Lys Asp Val Lys Val Pro Thr Lys Val Leu  
 385 390 395 400  
 Cys Ile Leu Trp Asp Met Glu Thr Glu Glu Val Glu Asp Ile Leu Gln  
 405 410 415  
 Glu Phe Val Asn Lys Ser Leu Leu Phe Cys Asp Arg Asn Gly Lys Ser  
 420 425 430  
 Phe Arg Tyr Tyr Leu His Asp Leu Gln Val Asp Phe Leu Thr Glu Lys  
 435 440 445  
 Asn Cys Ser Gln Leu Gln Asp Leu His Lys Lys Ile Ile Thr Gln Phe  
 450 455 460  
 Gln Arg Tyr His Gln Pro His Thr Leu Ser Pro Asp Gln Glu Asp Cys  
 465 470 475 480  
 Met Tyr Trp Tyr Asn Phe Leu Ala Tyr His Met Ala Ser Ala Lys Met  
 485 490 495  
 His Lys Glu Leu Cys Ala Leu Met Phe Ser Leu Asp Trp Ile Lys Ala  
 500 505 510  
 Lys Thr Glu Leu Val Gly Pro Ala His Leu Ile His Glu Phe Val Glu  
 515 520 525  
 Tyr Arg His Ile Leu Asp Glu Lys Asp Cys Ala Val Ser Glu Asn Phe  
 530 535 540  
 Gln Glu Phe Leu Ser Leu Asn Gly His Leu Leu Gly Arg Gln Pro Phe  
 545 550 555 560  
 Pro Asn Ile Val Gln Leu Gly Leu Cys Glu Pro Glu Thr Ser Glu Val  
 565 570 575

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Tyr Gln Gln Ala Lys Leu Gln Ala Lys Gln Glu Val Asp Asn Gly Met  
 580 585 590  
 Leu Tyr Leu Glu Trp Ile Asn Lys Lys Asn Ile Thr Asn Leu Ser Arg  
 595 600 605  
 Leu Val Val Arg Pro His Thr Asp Ala Val Tyr His Ala Cys Phe Ser  
 610 615 620  
 Glu Asp Gly Gln Arg Ile Ala Ser Cys Gly Ala Asp Lys Thr Leu Gln  
 625 630 635  
 Val Phe Lys Ala Glu Thr Gly Glu Lys Leu Leu Glu Ile Lys Ala His  
 645 650 655  
 Glu Asp Glu Val Leu Cys Cys Ala Phe Ser Thr Asp Asp Arg Phe Ile  
 660 665 670  
 Ala Thr Cys Ser Val Asp Lys Lys Val Lys Ile Trp Asn Ser Met Thr  
 675 680 685  
 Gly Glu Leu Val His Thr Tyr Asp Glu His Ser Glu Gln Val Asn Cys  
 690 695 700  
 Cys His Phe Thr Asn Ser Ser His His Leu Leu Leu Ala Thr Gly Ser  
 705 710 715 720  
 Ser Asp Cys Phe Leu Lys Leu Trp Asp Leu Asn Gln Lys Glu Cys Arg  
 725 730 735  
 Asn Thr Met Phe Gly His Thr Asn Ser Val Asn His Cys Arg Phe Ser  
 740 745 750  
 Pro Asp Asp Lys Leu Leu Ala Ser Cys Ser Ala Asp Gly Thr Leu Lys  
 755 760 765  
 Leu Trp Asp Ala Thr Ser Ala Asn Glu Arg Lys Ser Ile Asn Val Lys  
 770 775 780  
 Gln Phe Phe Leu Asn Leu Glu Asp Pro Gln Glu Asp Met Glu Val Ile  
 785 790 795 800  
 Val Lys Cys Cys Ser Trp Ser Ala Asp Gly Ala Arg Ile Met Val Ala  
 805 810 815  
 Ala Lys Asn Lys Ile Phe Leu Phe Asp Ile His Thr Ser Gly Leu Leu  
 820 825 830

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Gly Glu Ile His Thr Gly His His Ser Thr Ile Gln Tyr Cys Asp Phe  
835 840 845

Ser Pro Gln Asn His Leu Ala Val Val Ala Leu Ser Gln Tyr Cys Val  
850 855 860

Glu Leu Trp Asn Thr Asp Ser Arg Ser Lys Val Ala Asp Cys Arg Gly  
865 870 875 880

His Leu Ser Trp Val His Gly Val Met Phe Ser Pro Asp Gly Ser Ser  
885 890 895

Phe Leu Thr Ser Ser Asp Asp Gln Thr Ile Arg Leu Trp Glu Thr Lys  
900 905 910

Lys Val Cys Lys Asn Ser Ala Val Met Leu Lys Gln Glu Val Asp Val  
915 920 925

Val Phe Gln Glu Asn Glu Val Met Val Leu Ala Val Asp His Ile Arg  
930 935 940

Arg Leu Gln Leu Ile Asn Gly Arg Thr Gly Gln Ile Asp Tyr Leu Thr  
945 950 955 960

Glu Ala Gln Val Ser Cys Cys Cys Leu Ser Pro His Leu Gln Tyr Ile  
965 970 975

Ala Phe Gly Asp Glu Asn Gly Ala Ile Glu Ile Leu Glu Leu Val Asn  
980 985 990

Asn Arg Ile Phe Gln Ser Arg Phe Gln His Lys Lys Thr Val Trp His  
995 1000 1005

Ile Gln Phe Thr Ala Asp Glu Lys Thr Leu Ile Ser Ser Ser Asp  
1010 1015 1020

Asp Ala Glu Ile Gln Val Trp Asn Trp Gln Leu Asp Lys Cys Ile  
1025 1030 1035

Phe Leu Arg Gly His Gln Glu Thr Val Lys Asp Phe Arg Leu Leu  
1040 1045 1050

Lys Asn Ser Arg Leu Leu Ser Trp Ser Phe Asp Gly Thr Val Lys  
1055 1060 1065

Val Trp Asn Ile Ile Thr Gly Asn Lys Glu Lys Asp Phe Val Cys  
Page 15

1070

1075

1080

His Gln Gly Thr Val Leu Ser Cys Asp Ile Ser His Asp Ala Thr  
 1085 1090 1095

Lys Phe Ser Ser Thr Ser Ala Asp Lys Thr Ala Lys Ile Trp Ser  
 1100 1105 1110

Phe Asp Leu Leu Leu Pro Leu His Glu Leu Arg Gly His Asn Gly  
 1115 1120 1125

Cys Val Arg Cys Ser Ala Phe Ser Val Asp Ser Thr Leu Leu Ala  
 1130 1135 1140

Thr Gly Asp Asp Asn Gly Glu Ile Arg Ile Trp Asn Val Ser Asn  
 1145 1150 1155

Gly Glu Leu Leu His Leu Cys Ala Pro Leu Ser Glu Glu Gly Ala  
 1160 1165 1170

Ala Thr His Gly Gly Trp Val Thr Asp Leu Cys Phe Ser Pro Asp  
 1175 1180 1185

Gly Lys Met Leu Ile Ser Ala Gly Gly Tyr Ile Lys Trp Trp Asn  
 1190 1195 1200

Val Val Thr Gly Glu Ser Ser Gln Thr Phe Tyr Thr Asn Gly Thr  
 1205 1210 1215

Asn Leu Lys Lys Ile His Val Ser Pro Asp Phe Lys Thr Tyr Val  
 1220 1225 1230

Thr Val Asp Asn Leu Gly Ile Leu Tyr Ile Leu Gln Thr Leu Glu  
 1235 1240 1245

&lt;210&gt; 8

&lt;211&gt; 416

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 8

Met Asp Glu Ala Asp Arg Arg Leu Leu Arg Arg Cys Arg Leu Arg Leu  
 1 5 10 15

Val Glu Glu Leu Gln Val Asp Gln Leu Trp Asp Ala Leu Leu Ser Arg  
 20 25 30

Glu Leu Phe Arg Pro His Met Ile Glu Asp Ile Gln Arg Ala Gly Ser  
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35 40 112911\_161.ST25.txt 45

Gly Ser Arg Arg Asp Gln Ala Arg Gln Leu Ile Ile Asp Leu Glu Thr  
50 55 60

Arg Gly Ser Gln Ala Leu Pro Leu Phe Ile Ser Cys Leu Glu Asp Thr  
65 70 75 80

Gly Gln Asp Met Leu Ala Ser Phe Leu Arg Thr Asn Arg Gln Ala Ala  
85 90 95

Lys Leu Ser Lys Pro Thr Leu Glu Asn Leu Thr Pro Val Val Leu Arg  
100 105 110

Pro Glu Ile Arg Lys Pro Glu Val Leu Arg Pro Glu Thr Pro Arg Pro  
115 120 125

Val Asp Ile Gly Ser Gly Gly Phe Gly Asp Val Gly Ala Leu Glu Ser  
130 135 140

Leu Arg Gly Asn Ala Asp Leu Ala Tyr Ile Leu Ser Met Glu Pro Cys  
145 150 155 160

Gly His Cys Leu Ile Ile Asn Asn Val Asn Phe Cys Arg Glu Ser Gly  
165 170 175

Leu Arg Thr Arg Thr Gly Ser Asn Ile Asp Cys Glu Lys Leu Arg Arg  
180 185 190

Arg Phe Ser Ser Leu His Phe Met Val Glu Val Lys Gly Asp Leu Thr  
195 200 205

Ala Lys Lys Met Val Leu Ala Leu Leu Glu Leu Ala Gln Gln Asp His  
210 215 220

Gly Ala Leu Asp Cys Cys Val Val Val Ile Leu Ser His Gly Cys Gln  
225 230 235 240

Ala Ser His Leu Gln Phe Pro Gly Ala Val Tyr Gly Thr Asp Gly Cys  
245 250 255

Pro Val Ser Val Glu Lys Ile Val Asn Ile Phe Asn Gly Thr Ser Cys  
260 265 270

Pro Ser Leu Gly Gly Lys Pro Lys Leu Phe Phe Ile Gln Ala Cys Gly  
275 280 285

Gly Glu Gln Lys Asp His Gly Phe Glu Val Ala Ser Thr Ser Pro Glu  
 290 295 300

Asp Glu Ser Pro Gly Ser Asn Pro Glu Pro Asp Ala Thr Pro Phe Gln  
 305 310 315 320

Glu Gly Leu Arg Thr Phe Asp Gln Leu Asp Ala Ile Ser Ser Leu Pro  
 325 330 335

Thr Pro Ser Asp Ile Phe Val Ser Tyr Ser Thr Phe Pro Gly Phe Val  
 340 345 350

Ser Trp Arg Asp Pro Lys Ser Gly Ser Trp Tyr Val Glu Thr Leu Asp  
 355 360 365

Asp Ile Phe Glu Gln Trp Ala His Ser Glu Asp Leu Gln Ser Leu Leu  
 370 375 380

Leu Arg Val Ala Asn Ala Val Ser Val Lys Gly Ile Tyr Lys Gln Met  
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Pro Gly Cys Phe Asn Phe Leu Arg Lys Lys Leu Phe Phe Lys Thr Ser  
 405 410 415

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 <213> Homo sapiens

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Glu Pro Lys Ile Ile His Gly Ser Glu Ser Met Asp Ser Gly Ile Ser  
 20 25 30

Leu Asp Asn Ser Tyr Lys Met Asp Tyr Pro Glu Met Gly Leu Cys Ile  
 35 40 45

Ile Ile Asn Asn Lys Asn Phe His Lys Ser Thr Gly Met Thr Ser Arg  
 50 55 60

Ser Gly Thr Asp Val Asp Ala Ala Asn Leu Arg Glu Thr Phe Arg Asn  
 65 70 75 80

Leu Lys Tyr Glu Val Arg Asn Lys Asn Asp Leu Thr Arg Glu Glu Ile  
 85 90 95

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Val Glu Leu Met Arg Asp Val Ser Lys Glu Asp His Ser Lys Arg Ser  
100 105 110

Ser Phe Val Cys Val Leu Leu Ser His Gly Glu Glu Gly Ile Ile Phe  
115 120 125

Gly Thr Asn Gly Pro Val Asp Leu Lys Lys Ile Thr Asn Phe Phe Arg  
130 135 140

Gly Asp Arg Cys Arg Ser Leu Thr Gly Lys Pro Lys Leu Phe Ile Ile  
145 150 155 160

Gln Ala Cys Arg Gly Thr Glu Leu Asp Cys Gly Ile Glu Thr Asp Ser  
165 170 175

Gly Val Asp Asp Asp Met Ala Cys His Lys Ile Pro Val Asp Ala Asp  
180 185 190

Phe Leu Tyr Ala Tyr Ser Thr Ala Pro Gly Tyr Tyr Ser Trp Arg Asn  
195 200 205

Ser Lys Asp Gly Ser Trp Phe Ile Gln Ser Leu Cys Ala Met Leu Lys  
210 215 220

Gln Tyr Ala Asp Lys Leu Glu Phe Met His Ile Leu Thr Arg Val Asn  
225 230 235 240

Arg Lys Val Ala Thr Glu Phe Glu Ser Phe Ser Phe Asp Ala Thr Phe  
245 250 255

His Ala Lys Lys Gln Ile Pro Cys Ile Val Ser Met Leu Thr Lys Glu  
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Leu Tyr Phe Tyr His  
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Ile Asn Lys Thr Arg Met Asn Asp Leu Asn Arg Glu Glu Thr Arg Leu  
 35 40 45  
 Lys Thr Phe Thr Asp Trp Pro Leu Asp Trp Leu Asp Lys Arg Gln Leu  
 50 55 60  
 Ala Gln Thr Gly Met Tyr Phe Thr His Ala Gly Asp Lys Val Lys Cys  
 65 70 75 80  
 Phe Phe Cys Gly Val Glu Ile Gly Cys Trp Glu Gln Glu Asp Gln Pro  
 85 90 95  
 Val Pro Glu His Gln Arg Trp Ser Pro Asn Cys Pro Leu Leu Arg Arg  
 100 105 110  
 Arg Thr Thr Asn Asn Val Pro Ile Asn Ala Glu Ala Leu Asp Arg Ile  
 115 120 125  
 Leu Pro Pro Ile Ser Tyr Asp Ile Cys Gly Ala Asn Asp Ser Thr Leu  
 130 135 140  
 Glu Met Arg Glu His Ala Tyr Ala Glu Gly Val Ile Pro Met Ser Gln  
 145 150 155 160  
 Leu Ile Gln Ser Ile Gly Met Asn Ala Val Asn Ala Ala Gly Ser Val  
 165 170 175  
 Thr Gly Thr Ala Ala Pro Gln Pro Arg Val Thr Val Ala Thr His Ala  
 180 185 190  
 Ser Thr Ala Thr Gln Ala Thr Gly Asp Val Gln Pro Glu Thr Cys Arg  
 195 200 205  
 Pro Ser Ala Ala Ser Gly Asn Tyr Phe Pro Gln Tyr Pro Glu Tyr Ala  
 210 215 220  
 Ile Glu Thr Ala Arg Leu Arg Thr Phe Glu Ala Trp Pro Arg Asn Leu  
 225 230 235 240  
 Lys Gln Lys Pro His Gln Leu Ala Glu Ala Gly Phe Phe Tyr Thr Gly  
 245 250 255  
 Val Gly Asp Arg Val Arg Cys Phe Ser Cys Gly Gly Gly Leu Met Asp  
 260 265 270  
 Trp Asn Asp Asn Asp Glu Pro Trp Glu Gln His Ala Leu Trp Leu Ser  
 275 280 285

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Gln Cys Arg Phe Val Lys Leu Met Lys Gly Gln Leu Tyr Ile Asp Thr  
290 295 300

Val Ala Ala Lys Pro Val Leu Ala Glu Glu Lys Glu Glu Ser Thr Ser  
305 310 315 320

Ile Gly Gly Asp Thr Val Ala Ser Thr Gln Ala Ser Glu Glu Glu Gln  
325 330 335

Gln Thr Ser Leu Ser Ser Glu Glu Ala Val Ser Gly Asp Val Ala Pro  
340 345 350

Ser Val Ala Pro Thr Ala Ala Thr Arg Ile Phe Asn Lys Ile Val Glu  
355 360 365

Ala Thr Ala Val Ala Thr Pro Ser Thr Asn Ser Ser Gly Ser Thr Ser  
370 375 380

Ile Pro Glu Glu Lys Leu Cys Lys Ile Cys Tyr Gly Ala Glu Tyr Asn  
385 390 395 400

Thr Ala Phe Leu Pro Cys Gly His Val Val Ala Cys Ala Lys Cys Ala  
405 410 415

Ser Ser Val Thr Lys Cys Pro Leu Cys Arg Lys Pro Phe Thr Asp Val  
420 425 430

Met Arg Val Tyr Phe Ser  
435

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Asn Gly Phe Phe Ala Thr Gly Asn Trp Leu Glu Ala Glu Cys His Phe  
35 40 45

Cys His Val Arg Ile Asp Arg Trp Glu Tyr Gly Asp Gln Val Ala Glu  
50 55 60

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Arg His Arg Arg Ser Ser Pro Ile Cys Ser Met Val Leu Ala Pro Asn  
65 70 75 80

His Cys Gly Asn Val Pro Arg Ser Gln Glu Ser Asp Asn Glu Gly Asn  
85 90 95

Ser Val Val Asp Ser Pro Glu Ser Cys Ser Cys Pro Asp Leu Leu Leu  
100 105 110

Glu Ala Asn Arg Leu Val Thr Phe Lys Asp Trp Pro Asn Pro Asn Ile  
115 120 125

Thr Pro Gln Ala Leu Ala Lys Ala Gly Phe Tyr Tyr Leu Asn Arg Leu  
130 135 140

Asp His Val Lys Cys Val Trp Cys Asn Gly Val Ile Ala Lys Trp Glu  
145 150 155 160

Lys Asn Asp Asn Ala Phe Glu Glu His Lys Arg Phe Phe Pro Gln Cys  
165 170 175

Pro Arg Val Gln Met Gly Pro Leu Ile Glu Phe Ala Thr Gly Lys Asn  
180 185 190

Leu Asp Glu Leu Gly Ile Gln Pro Thr Thr Leu Pro Leu Arg Pro Lys  
195 200 205

Tyr Ala Cys Val Asp Ala Arg Leu Arg Thr Phe Thr Asp Trp Pro Ile  
210 215 220

Ser Asn Ile Gln Pro Ala Ser Ala Leu Ala Gln Ala Gly Leu Tyr Tyr  
225 230 235 240

Gln Lys Ile Gly Asp Gln Val Arg Cys Phe His Cys Asn Ile Gly Leu  
245 250 255

Arg Ser Trp Gln Lys Glu Asp Glu Pro Trp Phe Glu His Ala Lys Trp  
260 265 270

Ser Pro Lys Cys Gln Phe Val Leu Leu Ala Lys Gly Pro Ala Tyr Val  
275 280 285

Ser Glu Val Leu Ala Thr Thr Ala Ala Asn Ala Ser Ser Pro Pro Ala  
290 295 300

Thr Ala Pro Ala Pro Thr Leu Gln Ala Asp Val Leu Met Asp Glu Ala  
305 310 315 320

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Pro Ala Lys Glu Ala Leu Ala Leu Gly Ile Asp Gly Gly Val Val Arg  
325 330 335

Asn Ala Ile Gln Arg Lys Leu Leu Ser Ser Gly Cys Ala Phe Ser Thr  
340 345 350

Leu Asp Glu Leu Leu His Asp Ile Phe Asp Asp Ala Gly Ala Gly Ala  
355 360 365

Ala Leu Glu Val Arg Glu Pro Pro Glu Pro Ser Ala Pro Phe Ile Glu  
370 375 380

Pro Cys Gln Ala Thr Thr Ser Lys Ala Ala Ser Val Pro Ile Pro Val  
385 390 395 400

Ala Asp Ser Ile Pro Ala Lys Pro Gln Ala Ala Glu Ala Val Ala Asn  
405 410 415

Ile Ser Lys Ile Thr Asp Glu Ile Gln Lys Met Ser Val Ala Thr Pro  
420 425 430

Asn Gly Asn Leu Ser Leu Glu Glu Glu Asn Arg Gln Leu Lys Asp Ala  
435 440 445

Arg Leu Cys Lys Val Cys Leu Asp Glu Glu Val Gly Val Val Phe Leu  
450 455 460

Pro Cys Gly His Leu Ala Thr Cys Asn Gln Cys Ala Pro Ser Val Ala  
465 470 475 480

Asn Cys Pro Met Cys Arg Ala Asp Ile Lys Gly Phe Val Arg Thr Phe  
485 490 495

Leu Ser

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<213> Drosophila melanogaster

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20 25 30

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Leu Pro Ser Ser Ala Ser Ser Ser Val Ser Ser Ser Gly Val Ser Ser  
 35 40 45  
 Ala Ser Ala Ser Ser Ala Ser Ser Ser Ser Ser Ala Ser Ser Asp Gly  
 50 55 60  
 Ala Ser Ser Ala Ala Ser Gln Ser Pro Asn Thr Thr Thr Ser Ser Ala  
 65 70 75 80  
 Thr Gln Thr Pro Met Gln Ser Pro Leu Pro Thr Asp Gln Val Leu Tyr  
 85 90 95  
 Ala Leu Tyr Glu Trp Val Arg Met Tyr Gln Ser Gln Gln Ser Ala Pro  
 100 105 110  
 Gln Ile Phe Gln Tyr Pro Pro Pro Ser Pro Ser Cys Asn Phe Thr Gly  
 115 120 125  
 Gly Asp Val Phe Phe Pro His Gly His Pro Asn Pro Asn Ser Asn Pro  
 130 135 140  
 His Pro Arg Thr Pro Arg Thr Ser Val Ser Phe Ser Ser Gly Glu Glu  
 145 150 155 160  
 Tyr Asn Phe Phe Arg Gln Gln Gln Pro Gln Pro His Pro Ser Tyr Pro  
 165 170 175  
 Ala Pro Ser Thr Pro Gln Pro Met Pro Pro Gln Ser Ala Pro Pro Met  
 180 185 190  
 His Cys Ser His Ser Tyr Pro Gln Gln Ser Ala His Met Met Pro His  
 195 200 205  
 His Ser Ala Pro Phe Gly Met Gly Gly Thr Tyr Tyr Ala Gly Tyr Thr  
 210 215 220  
 Pro Pro Pro Thr Pro Asn Thr Ala Ser Ala Gly Thr Ser Ser Ser Ser  
 225 230 235 240  
 Ala Ala Phe Gly Trp His Gly His Pro His Ser Pro Phe Thr Ser Thr  
 245 250 255  
 Ser Thr Pro Leu Ser Ala Pro Val Ala Pro Lys Met Arg Leu Gln Arg  
 260 265 270  
 Ser Gln Ser Asp Ala Ala Arg Arg Lys Arg Leu Thr Ser Thr Gly Glu  
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Asp Glu Arg Glu Tyr Gln Ser Asp His Glu Ala Thr Trp Asp Glu Phe  
290 295 300

Gly Asp Arg Tyr Asp Asn Phe Thr Ala Gly Arg Glu Arg Leu Gln Glu  
305 310 315 320

Phe Asn Gly Arg Ile Pro Pro Arg Lys Lys Lys Ser Ser Asn Ser His  
325 330 335

Ser Ser Ser Ser Asn Asn Pro Val Cys His Thr Asp Ser Gln Pro Gly  
340 345 350

Gly Thr Ser Gln Ala Glu Ser Gly Ala Ile His Gly His Ile Ser Gln  
355 360 365

Gln Arg Gln Val Glu Arg Glu Arg Gln Lys Ala Lys Ala Glu Lys Lys  
370 375 380

Lys Pro Gln Ser Phe Thr Trp Pro Thr Val Val Thr Val Phe Val Leu  
385 390 395 400

Ala Met Gly Cys Gly Phe Phe Ala Ala Arg  
405 410

<210> 13  
<211> 138  
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<213> Drosophila melanogaster  
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Ser Tyr Gln Gln Asn Gly Gln Gln Thr Ala Ala Ser Pro Arg Thr Thr  
20 25 30

Ala Thr Ala Ala Ala Pro Ser Gln Gln Gln Gln Ser Gln Gln Gln  
35 40 45

Gln Gln Gln Gln Arg His His His Gln Gln Gln Arg Pro Gln Phe Arg  
50 55 60

Ala Asn Ile Ser Val Pro Leu Gly Ser Gln Gln Gly Ser Met Thr Met  
65 70 75 80

Ser Glu Phe Gly Cys Trp Asp Leu Leu Ala Gln Ile Phe Cys Tyr Ala  
Page 25

Leu Arg Ile Tyr Ser Tyr Ser Ser Ser Gln Arg Gln Pro Thr Val Ile  
                   100                  105                  110

Gln Ile Ser Phe Glu Ile Ser Ser Gly Gly Gln Asn Asn Asp Glu Asp  
                   115                  120                  125

Asp Val Thr Asp Ala Thr Ser Lys Glu Asn  
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<400> 14

Met Ala Val Ala Phe Tyr Ile Pro Asp Gln Ala Thr Leu Leu Arg Glu  
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Ala Glu Gln Lys Glu Gln Gln Ile Leu Arg Leu Arg Glu Ser Gln Trp  
                   20                  25                  30

Arg Phe Leu Ala Thr Val Val Leu Glu Thr Leu Arg Gln Tyr Thr Ser  
                   35                  40                  45

Cys His Pro Lys Thr Gly Arg Lys Ser Gly Lys Tyr Arg Lys Pro Ser  
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Gln  
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<400> 15

Tyr Glu Ala Arg Ile Phe Thr Phe Gly Thr Trp Ile Tyr Ser Val Asn  
   1                  5                  10                  15

Lys Glu Gln Leu Ala Arg Ala Gly Phe Tyr Ala Leu Gly Glu Gly Asp  
                   20                  25                  30

Lys Val Lys Cys Phe His Cys Gly Gly Gly Leu Thr Asp Trp Lys Pro  
                   35                  40                  45

Ser Glu Asp Pro Trp Glu Gln His Ala Lys Trp Tyr Pro Gly Cys Lys  
                   50                  55                  60

Tyr Leu  
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Lys Glu Gln Leu Ala Arg Ala Gly Phe Tyr Ala Leu Gly Glu Gly Asp  
20 25 30

Lys Val Lys Cys Phe His Cys Gly Gly Gly Leu Thr Asp Trp Lys Pro  
35 40 45

Ser Glu Asp Pro Trp Glu Gln His Ala Lys Trp Tyr Pro Gly Cys Lys  
50 55 60

Tyr Leu  
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<400> 18

Ala Val Pro Ile  
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<400> 19

Ala Val Pro Phe  
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Ala Arg Pro Ile  
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Gly Val Pro Ile  
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<210> 22  
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<400> 23

Ala Asx Val Pro Ile  
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<400> 24

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Ala Leu Pro Ile  
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Ala Ile Pro Ile  
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<210> 28  
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<212> PRT  
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<400> 28

Ala Val Pro Tyr  
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Ala His Pro Ile  
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Ala Ile Pro Val  
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Ala Ile Pro Tyr  
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Ala Val Pro Thr  
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Ala Val Pro Val  
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Ala Val Pro Gly  
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Ala Val Pro His  
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Ala Val Pro Gln  
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Ala Val Pro Glu  
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Ala Val Pro Asn  
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Ala Val Pro Pro  
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Ala Val Pro Arg  
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Ala Val Ala Tyr  
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Ala Thr Ala Val  
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Ala Thr Ala Ile  
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Ala Thr Ala Tyr  
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Ala Thr Ala Phe  
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Ala Ile Ala Val  
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Ala Ile Ala Ile  
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Ala Val Ala Phe  
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Ser Val Pro Ile  
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Ala Lys Pro Ile  
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Ala Tyr Pro Ile  
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Ala Cys Pro Ile  
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Ala Met Pro Ile  
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Ala Phe Pro Ile  
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Ala Gln Pro Ile  
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Ala Trp Pro Ile  
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Ala Thr Pro Ile  
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Ala Ser Pro Ile  
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Ala Asn Pro Ile  
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Ala Glu Pro Ile  
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Ala Ala Pro Ile  
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<400> 73

Ala Asp Pro Ile  
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Ala Pro Pro Ile  
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<223> Synthetic Peptide, N-methylproline, N-Methylation at the peptide bond between  
residues 3 and 4

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Ala Arg Xaa Phe  
1

<210> 76  
<211> 4  
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<220>  
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<223> Synthetic Peptide, Xaa is N-Methylproline, N-Methylation at the  
peptide bond between residues 3 and 4

<400> 76

Ala Val Xaa Phe  
1 5

<210> 77  
<211> 4



<212> PRT  
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<220>  
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<400> 77

Xaa Val Pro Phe  
1

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<220>  
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<220>  
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<223> Synthetic Peptide, Xaa is N-Methylproline, N-Methylation at the peptide bond between residues 3 and 4

<400> 78

Xaa Val Xaa Phe  
1

<210> 79  
<211> 4  
<212> PRT  
<213> Artificial

<220>  
<222> 3  
<223> Synthetic Peptide, Xaa is N-Methylproline, N-Methylation at the peptide bond between residues 3 and 4

<400> 79

Ala Val Xaa Ile  
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<210> 80  
<211> 4  
<212> PRT  
<213> Artificial

<220>  
<222> 3  
<223> Synthetic Peptide, Xaa is N-Methylproline, N-methylation at the peptide bond between residues 3 and 4

<400> 80  
Ala Arg Xaa Ile  
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<210> 81  
<211> 6  
<212> PRT  
<213> Artificial

<220>  
<222> 1  
<223> Synthetic Peptide, Xaa is N-Methylalanine, N-methylation at the peptide bond between residues 1 and 2

<400> 81  
Xaa Val Pro Ile  
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<210> 82  
<211> 4  
<212> PRT  
<213> Artificial

<220>  
<223> Synthetic Peptide

<400> 82  
Ala Ile Ala Tyr  
1

<210> 83  
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<220>  
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<400> 83  
Ala Ile Ala Phe  
1

<210> 84  
<211> 4  
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<213> Artificial

<220>  
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<400> 84  
Ala Thr Pro Tyr  
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<210> 85  
 <211> 4  
 <212> PRT  
 <213> Artificial

<220>  
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<400> 85

Ala Thr Pro Val  
 1

<210> 86  
 <211> 4  
 <212> PRT  
 <213> Artificial

<220>  
 <223> Synthetic Peptide

<400> 86

Ala Thr Pro Phe  
 1

<210> 87  
 <211> 6  
 <212> PRT  
 <213> Artificial

<220>  
 <222> 2  
 <223> Synthetic Peptide, Xaa is Leucine, which contains carbon 11

<400> 87

Ala Xaa Pro Ile  
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